



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,742	09/30/1999	ALBERT VARELIAN	99-CN-118	4407

7590 05/15/2003

LISA K JORGENSEN ESQ  
STMICROELECTRONICS INC  
1310 ELECTRONICS DRIVE  
MS 2346  
CARROLLTON, TX 75006

EXAMINER

TIEU, BINH KIEN

ART-UNIT

PAPER NUMBER

2643

2

DATE MAILED: 05/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/408,742

Applicant(s)

VARELJIAN, ALBERT

Examiner

BINH K. TIEU

Art Unit

2643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 September 1999.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 16-19 and 25-31 is/are rejected.
- 7) ☒ Claim(s) 5-15 and 20-24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rahamim (U.S. Pat. #: 5,541,990) in view of Gilbert (U.S. Pat. #: 4,878,241).

Regarding claim 1, Rahamim teaches a device (i.e., a device as shown in figure 3) for transmitting and receiving signals over a communication line, comprising:

a transmitter circuit having an output coupled to the communication line (i.e., output transmit lines Tx1 and Tx2);

a receiver circuit having an input coupled to the communication line (i.e., input receive line Rxin; col.4, lines 17-32); and

a hybrid circuit (i.e., hybrid circuit 300) connected to the transmitter output, the receiver input and the communication line, the hybrid circuit being configured as a voltage divider (i.e., voltage divider circuit) formed from reactive elements (i.e., a combination of  $R_r$  and a feedback resistor  $R_f$ ; col.5, lines 34-40) for substantially canceling signals (i.e., reflected echo) transmitted by the transmitter circuit from appearing at the receiver input (col.4, lines 37-54; col.5, lines 26-32 and col.6, lines 4-30).

Art Unit: 2643

It should be noticed that Rahamim fails to clearly teach the feature of hybrid circuit for filtering signals at frequencies that fall outside of a predetermined frequency range. However, Gilbert teaches such feature in col.3, lines 39-48 for a purpose of eliminating noise signals on a telephone line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of hybrid circuit with filtering feature for filtering signals at frequencies such as noise signals having frequencies range from 150-40 Hz that fall outside of a predetermined frequency range such as voice frequencies range, as taught by Gilbert, into view of Rahamim in order to improve the hybrid circuit.

Regarding claims 2-3, Gilbert further teaches limitations or elements of the claims in figure 2.

Regarding claim 4, Gilbert further teaches limitations of the claim in col.4, line 37 – col.5, line 27.

Regarding claim 16, Rahamim teaches a hybrid circuit 300 as shown in figure 3 associated with an end of a telecommunication line to which a transmitter and a receiver are connected, comprising:

a first circuit (i.e., Tx2) having a first terminal coupled to an output of the transmitter, a second terminal (i.e., Tx1) coupled to an input of the receiver and a third terminal coupled to the telecommunication line (i.e., transformer 330), for canceling signals transmitted by the transmitter from appearing at the receiver input so that the receiver is substantially isolated from the transmitter (col.4, lines 37-54; col.5, lines 26-32 and col.6, lines 4-30), the first circuit

Art Unit: 2643

forming a voltage divider (i.e., voltage divider circuit) of reactive elements (i.e., a combination of  $R_r$  and a feedback resistor  $R_f$ ; col.5, lines 34-40) that is configured as a filter.

It should be noticed that Rahamim fails to clearly teach the feature of hybrid circuit for filtering signals at frequencies that fall outside of a predetermined frequency range. However, Gilbert teaches such feature in col.3, lines 39-48 for a purpose of eliminating noise signals on a telephone line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of hybrid circuit with filtering feature for filtering signals at frequencies such as noise signals having frequencies range from 150-40 Hz that fall outside of a predetermined frequency range such as voice frequencies range, as taught by Gilbert, into view of Rahamim in order to improve the hybrid circuit.

Regarding claims 17 and 19, Gilbert further teaches limitations or elements of the claims in figure 2.

Regarding claim 18, Gilbert further teaches limitations of the claim in col.4, line 37 – col.5, line 27.

3. Claims 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiyoshi (U.S. Pat. #: 5,734,703) in view of Gilbert (U.S. Pat. #: 4,878,241).

Regarding claim 25, Hiyoshi teaches a hybrid circuit as shown in figure 1 associated with an end of a telecommunications line to which a transmitter and a receiver are connected, comprising:

a first filter circuit connected to an output of the transmitter, the telecommunications line and an input of the receiver for scaling signals appearing on the transmitter output and canceling

Art Unit: 2643

the scaled signals at the receiver input with related signals appearing on the telecommunications line (col.9, line 50 – col.11, line 40; col.13, line 33 – col.14, line 14).

It should be noticed that Rahamim fails to clearly teach the feature of hybrid circuit for filtering signals at frequencies that fall outside of a predetermined frequency range. However, Gilbert teaches such feature in col.3, lines 39-48 for a purpose of eliminating noise signals on a telephone line.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of hybrid circuit with filtering feature for filtering signals at frequencies such as noise signals having frequencies range from 150-40 Hz that fall outside of a predetermined frequency range such as voice frequencies range, as taught by Gilbert, into view of Hiyoshi in order to improve the hybrid circuit.

Regarding claims 26-31, Gilbert further teaches limitations of the claims in figure 2; col.4, line 10 – col.5, line 27.

***Allowable Subject Matter***

4. Claims 5-15, 20-21 and 23-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2643

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh K. Tieu whose telephone number is (703) 305-3963 and E-mail address: [BINH.TIEU@USPTO.GOV](mailto:BINH.TIEU@USPTO.GOV).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz, can be reached on (703) 305-4708 and **IF PAPER HAS BEEN MISSED FROM THIS OFFICIAL ACTION PACKAGE, PLEASE CALL Customer Service at (703) 306-0377 FOR THE SUBSTITUTIONS OR COPIES.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Or faxed to:

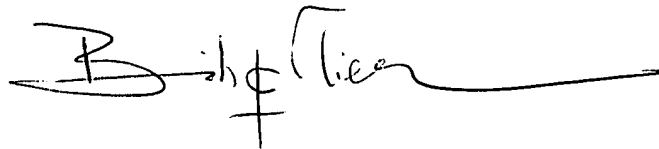
(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist, tel. No. 703-305-4700).

**BINH TIEU  
PRIMARY EXAMINER**

Art Unit 2643

Date: May 12, 2003

A handwritten signature in black ink, appearing to read "Binh Tieu", with a long horizontal flourish extending to the right.